TEST REPORT

Reference No.	:	WTX24X10240825W004
Manufacturer	:	Lumi United Technology Co., Ltd
Address	:	Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China
Product Name	:	Light Switch H2 Vertical (4 Buttons, 3 Channels), Light Switch H2 Vertical (2 Buttons, 2 Channels), Light Switch H2 Vertical (2 Buttons,1 Channel)
Model No.	:	WS-K04E, WS-K03E, WS-K02E
Standards	:	**AS/NZS 2772.2:2016+A1:2018**
Date of Receipt sample	:	2024-10-18
Date of Test	:	2024-10-18 to 2025-02-12
Date of Issue	:	2025-02-12
Test Report Form No.	:	WTX_AS/NZS 2772_2_2016W
Test Result	:	**Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Tested by:

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Approved by:

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Report version

Version No.	Date of issue	Description
Rev.00	2025-02-12	Original
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Light Switch H2 Vertical (4 Buttons, 3 Channels), Light Switch H2 Vertical (2 Buttons, 2 Channels), Light Switch H2 Vertical (2 Buttons,1 Channel)
Trade Name:	/
Model No.:	WS-K04E
Adding Model(s):	WS-K03E, WS-K02E
Rated Voltage:	120-240VAC
Battery Capacity:	/
Power Adaptor Model:	/
Software Version:	/
Hardware Version:	/
Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model WS-K04E, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Bluetooth	
Bluetooth Version:	Bluetooth V5.0(BLE Mode)
Frequency Range:	2402MHz-2480MHz
Max.RF Output Power:	9.37dBm (EIRP)
Type of Modulation:	GFSK
Data Rate:	1Mbps
Quantity of Channels	40
Channel Separation:	2MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	1dBi
ZigBee	
Support Standards:	ZigBee
Frequency Range:	2405MHz-2480MHz
Max.RF Output Power:	9.44dBm (EIRP)
Modulation:	QPSK
Type of Antenna:	Integral Antenna
Antenna Gain:	1dBi
Thread	
Support Standards:	Thread
Frequency Range:	2405MHz-2480MHz
Max.RF Output Power:	9.42dBm (EIRP)
Modulation:	QPSK
Type of Antenna:	Integral Antenna
Antenna Gain:	1dBi
Note: The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Compliance Standards

The tests were performed according to following standards:

AS/NZS 2772.2:2016+A1:2018: Radiofrequency fields Part2: Principles and methods of measurement and measurement and computation-3 kHz to 300 GHz

EN 62479:2010: Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz).

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained

1.3 Test Methodology

All measurements contained in this report were conducted with EN 62479, the equipment under test (EUT) was configured to measure its highest possible emission level. For more detail refer to the Operating Instructions.

1.4 Test Facility

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd.Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

2. RF EXPOSURE BASIC RESTRICTIONS

2.1 Standard Applicable

According to EN 62479:2010, Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz).

Low-power exclusion level *P*max based on considerations of SAR

When SAR is the basic restriction, a conservative minimum value for P_{max} can be derived, equal to the localized SAR limit (SAR_{max}) multiplied by the averaging mass (m):

$$P_{max} = SAR_{max}\, m \qquad (A.1)$$

Example values of P_{max} according to Equation (A.1) are provided in Table A.1 for cases described by the ICNIRP guidelines [1], IEEE Std C95.1-1999 [2] and IEEE Std C95.1-2005 [3] where SAR limits are defined. Other exposure guidelines or standards may be applicable depending on national regulations.

Table A.1 – Example values of SAR-based P_{max} for some cases described by ICNIRP, IEEE Std C95.1-1999 and IEEE Std C95.1-2005

Guideline / Standard	SAR limit, SAR_{max} W/kg	Averaging mass, m g	P_{max} mW	Exposure tier[a]	Region of body[a]
ICNIRP [1]	2	10	20	General public	Head and trunk
	4	10	40	General public	Limbs
	10	10	100	Occupational	Head and trunk
	20	10	200	Occupational	Limbs
IEEE Std C95.1-1999 [2]	1,6	1	1,6	Uncontrolled environment	Head, trunk, arms, legs
	4	10	40	Uncontrolled environment	Hands, wrists, feet and ankles
	8	1	8	Controlled environment	Head, trunk, arms, legs
	20	10	200	Controlled environment	Hands, wrists, feet and ankles
IEEE Std C95.1-2005 [3]	2	10	20	Action level	Body except extremities and pinnae
	4	10	40	Action level	Extremities and pinnae
	10	10	100	Controlled environment	Body except extremities and pinnae
	20	10	200	Controlled environment	Extremities and pinnae

[a] Consult the appropriate standard for more information and definitions of terms.

2.2 Evaluation Methods

Based on the above standard limit, the basic restriction at frequency between 10MHz to 300GHz is on localized SAR in the head. Any device with output power below 20mW cannot produce an exposure exceeding this restriction under the most pessimistic exposure conditions.

The basic restriction is 2W/Kg for general public device, so any unit which supplies less than 20mW from it's antenna port, averaged over 6 minutes, will meet the basic restriction.

2.3 Evaluation Results

Maximum Average Output Power

Modulation/ Frequency (MHz)	ERP/EIRP dBm	ERP/EIRP mW	Limit mW	Result Pass/Fail
BLE				
2402	8.91	7.7804	20	Pass
2440	9.37	8.6497	20	Pass
2480	8.83	7.6384	20	Pass
ZigBee				
2405	8.92	7.7983	20	Pass
2440	9.44	8.7902	20	Pass
2480	8.87	7.7090	20	Pass
Thread				
2405	8.91	7.7804	20	Pass
2440	9.42	8.7498	20	Pass
2480	8.85	7.6736	20	Pass

Since average output power at worse case is: 8.7902mW which cannot exceed the exempt condition, 20mW specified in EN 62479. It is deemed to full fit the requirement of RF exposure basic restriction specified in EC Council Recommendation (1999/519/EC).

EXHIBIT 1 - EUT PHOTOGRAPHS

Please refer to “ANNEX_ASNZS”.

******* END OF REPORT *******